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Plant and Soil Sciences

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FORAGE NEWS

For more forage information, visit our UK Forage Extension Website at: <http://www.uky.edu/Ag/Forage>

June 2013

Garry D. Lacefield and S. Ray Smith, Extension Forage Specialists • Christi Forsythe, Secretary

ADVANCED KENTUCKY GRAZING SCHOOL, JUNE 18

The second Advanced Grazing School will be held at the U.K. Research & Education Center in Princeton June 18 beginning at 8:30 a.m. Registration begins at 8:30 with a field oriented forage tour in the morning. At lunch, Dr. Glen Aiken will speak on "Forage and Grazing Management for a year around Grazing System". Following lunch, a tour will feature three animal stops. See detailed program on the Forage Website at

http://www.uky.edu/Ag/Forage/Advanced_Grazing_School%20June%202013.pdf

The Registration fee is \$20.00 and includes lunch, breaks and materials. To register, send check in the amount of \$20 payable to the Kentucky Forage and Grassland Council to: Kelly Kramer, 804 W.P. Garrigus Building, University of Kentucky, Lexington, KY 40546-0215. For more information, you may contact Kelly at 859-257-7512 or kelly.kramer@uky.edu.

FORAGE-FED BULLS PASS THE TEST AT EDISTO RESEARCH SALE

It's a test many students would jump at the chance to take: All you have to do is eat. Grades are based on how much weight you gain.

The trick is, all you get to eat is grass. And you have to be a bull.

For more than 30 years, young bulls have been taking this annual test at Clemson University's Edisto Research and Education Center.

Beef and forage specialists with the Clemson Extension Service carefully evaluate the animals to see how efficiently they gain weight on a diet of pasture grass.

"This is the diet that the bulls' offspring will have. Bulls with a proven ability to gain weight on grass are more likely to pass that trait onto the next generation," said Kevin Campbell, coordinator for this year's test and a Clemson Extension agent for livestock and forages.

"These bulls will be providing the genetics for the next generation of calves that will go in to the cattle industry in South Carolina and throughout the Southeast," Campbell said. "They are proven genetics. That's what the test is all about."

The 2012 class - 28 bulls from five cattle breeds - spent 168 days on their lessons this year. They were monitored throughout the test and graded on three scales: average daily weight gain during the test, weight per day of age at the end of the test and on an index that takes both those measures in to account.

The final exam came in October, when Clemson and the S.C. Cattlemen's Association hosted the 2012 Edisto Forage Bull Test Sale. The auction to local cattle breeders drew more than \$80,000 for the animals.

"It's really a good chance for the local producers to get a high-quality bull. You know what you're getting when they've been through a test like this," said John Mueller, director of the Edisto center. "The test is designed to closely resemble what cow-calf producers do here, which has made it very popular."

Top-performing bulls in the test gained as much as three pounds a day. By the auction date, the bulls were averaged 20 months old and weighed about 1,350 pounds. Most were Angus, the predominant breed for Carolina cattle producers, but the test also included Red Angus, Polled Hereford, Brahman and Gelbvieh.

"This is a good opportunity for us to compare our genetics to other breeders in the state and to make changes as we come home to our breeding program to allow us to benefit the commercial cattle producer," said Frankie Mullikin of Mull Meadows Farm in Liberty, who has participated in the bull test for 20 years. "Cattle prices are up now, but our inputs - fuel, grain costs, fertilizer - all those are up also. So it's important for us to balance that out, and the way we can do that is

through more grass feeding."

"The bull test provides a level playing field. Buyers know precisely what they're getting," Campbell said. "By utilizing forages and taking the feed out of the equation we have cut the cost to the consignors almost in half. These bulls will be adding a lot to the industry in South Carolina because they will go back into commercial cattle herds."

Learn more about the Edisto Forage Bull Test:

www.clemson.edu/extension/beef

See videos and interviews with participants:

www.clemson.edu/public/psatv/ag

SUMMARY OF AGRICULTURAL LAND PRICES, SUPPLY, DEMAND, AND CURRENT TRENDS

Farmland market price discovery is difficult because many factors influence farmland market price (for example: parcel production capabilities, size and shape), and a majority of transactions take place behind closed doors. However, we do know that average U.S. farmland values have more than doubled in the past decade (NASS, 2012). Particularly for corn and soybean producing regions, farmland prices have risen largely because of increased demand from market participants attempting to capture financial gain, through expected future production profits and asset appreciation. These incentives are currently driving farmland values higher.

Farmland agricultural markets are thinly traded, meaning small changes in quantity sold result in large price changes. Current grain market conditions are providing large returns to farmland holders through strong profits and appreciation values. Land sale data suggest that the response by farmland holders is to hold on to land that otherwise could have come up for sale. If holders of farmland begin to put more land up for sale AND the number of interested buyers decreases, it would send farmland prices plummeting. Factors that could lead to this outcome are: significant declines in returns to agricultural production, increases in interest rates, negative changes in the federal government capital gains tax policy, increases in returns to other investments, and reduction in government agricultural support programs. Currently, all factors are indicating strong farmland fundamentals. Anticipating a farmland value decline and its size is difficult. The decline may not start in the next few years, or it could possibly begin next year. When the decline comes, significant capital losses will occur, and this could place producers in an extremely difficult financial situation.

This article is one in a series of articles aimed at identifying opportunities to hedge farmland values. We will publish new articles through the Economic and Policy Update, as they become available. The complete report can be found by following the link below and then clicking on the article titled "Agricultural Land Prices, Supply, Demand and Current Trends". (Cory Walters & John Barnhart, UK Economic and Policy Update, Vol. 13, No. 4, April 30, 2013) <http://www.ca.uky.edu/agecon/index.php?p=110>

ALFALFA-CORN ROTATION INCREASES YIELD, REDUCES NITROGEN FERTILIZER NEEDS

Farmers usually enjoy a yield boost when corn is planted following an alfalfa crop. The major reasons: reduced pest and disease pressure, better soil structure that enhances root growth and water infiltration, and an altered soil microbial community, according to Jeff Coulter, a corn agronomist with University of Minnesota Extension.

Alfalfa also reduces nitrogen fertilizer needs in corn. Nitrogen fertilizer for first-year corn following a good alfalfa crop can often be reduced by up to 100 percent, and by about 50 percent for second-year corn. The nitrogen passed on to the corn is largely due to additions of nitrogen-rich inputs from alfalfa to soil organic matter.

These include alfalfa leaves and stems lost during harvest, alfalfa stand losses over time, turnover of thin alfalfa roots, and substances that exude out of alfalfa roots. They mineralize rapidly after alfalfa is terminated and release nitrogen for at least two years.

With funding from the Minnesota Corn Growers Association, the Minnesota Agricultural Fertilizer Research and Education Council, and the Minnesota Agricultural Water Resource Center, Coulter and co-workers recently completed on-farm research that confirms the nitrogen "credits" from alfalfa to corn. From 2009 to 2011, research on first-year nitrogen credits was conducted on 31 farms across Minnesota and Wisconsin with medium- to fine-textured soils. Only three of the 31 farms had increases in grain yield from adding nitrogen fertilizer to first-year corn after alfalfa. The three responsive farms had fine-textured soils and excessive early-season precipitation, which likely slowed mineralization. It was also found that nitrogen fertilizer rates could be reduced if the nitrogen was sidedressed rather than applied near planting.

In 2011 and 2012, research on second-year nitrogen credits was conducted on 11 farms in Minnesota with medium- to fine-textured soils. Surprisingly, four of 11 farms required no nitrogen fertilizer to maximize grain and silage yield. The economically optimum nitrogen rate varied among the seven responsive farms, but was often at least half as large as that for continuous corn. As in first-year corn, sidedress applications of nitrogen allowed growers to reduce fertilizer rates without sacrificing yield.

"Farmers are our active research partners, and help us perform the field operations," Coulter says. To help spread the word on the results, nine on-farm field days were held over the last three years and were attended by growers and farm advisors managing over one million acres of farmland. (SOURCE: University of Minnesota Extension)

SPRING BREEDING ON FESCUE PASTURES

Most Kentucky beef producers have spring-calving cow herds that graze fescue pastures which have high endophyte levels. Getting a high percentage of cows bred in May, June and July to calve in March, April and May can be a challenge. I personally prefer fall-calving for that reason, but I also believe that we can have successful breeding performance in the spring.

There are some keys to getting a high percentage of cows pregnant for a spring calving season. The most general problem, in my opinion, is that the winter feeding program isn't adequate to support required body condition for early rebreeding. Cows should enter the breeding season in good body condition (Body Condition Score 5) which doesn't always follow our winter feeding programs. It seems that we sometimes try to "rough 'em" through the winter and hope that spring grass will "straighten them out". That is a sure formula for delayed breeding or open cows. Spring-calving cows need to conceive early in the breeding season (before late June) for best results. We conducted a trial at the UKREC (Western Kentucky) several years ago in which similar cows were separated into three breeding periods of 45-days each on high-endophyte fescue – see Table 1. Cows which were exposed to bulls from June 19 to August 4 had a pregnancy rate of only 59%. At this location, the average maximum daily temperature reaches 90°F by about June 20. This elevated temperature, coupled with the endophyte that is present in most fescue pastures, likely contributed to that decreased performance.

Table 1. Effect of time of breeding on beef cows grazing high-endophyte fescue 1992, 1993 (UKREC).

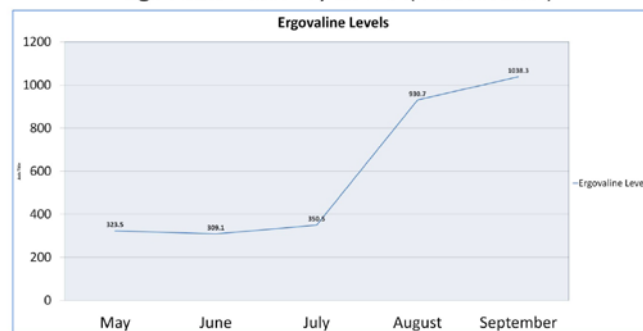
Item	Timing of breeding		
	4/21 – 6/5	5/21 – 7/6	6/19 – 8/4
Pregnancy rate	33/37 ^a	29/37 ^{a,b}	16/27 ^b
(%)	89.2	78.4	59.3

^{a,b} Means on the same line with different superscripts are different (P < .05).

We have also measured the alkaloid levels in high-endophyte fescue at this location. Since the primary culprit in toxicity of high endophyte pastures seems to be ergovaline, let's look at ergovaline levels (Figure 1) across the growing season. After our July (about July 10) measurement, the ergovaline levels increased dramatically. So

this toxicity, coupled with high temperatures, appears to mean that breeding will not occur at acceptable rates in July, August and September. Therefore, cows need to be pregnant by the end of June for best results.

**Figure 1.
Ergovaline Levels by Month(UKREC 2011)**



There are several other keys to a successful breeding season. Obviously, fertile bulls are extremely important and breeding soundness evaluations (BSE) are essential. Think fertile bulls and cycling cows! A complete mineral supplement needs to be available on a year-round basis. If artificial insemination (AI) is used, that brings on the need for managing the details of AI and estrous synchronization protocols.

In the short run, don't let cows lose condition as the breeding season nears. Lush, watery grass might not support regaining condition after calving, peak milk production and rapid re-breeding. Do whatever it takes to get 'em bred and bred early! (SOURCE: Roy Burris, UK Extension Beef Specialist)

LAND RENTAL RATES, IMPACT ON ALFALFA

He'll cut hay acres; landowners won't lease long term

Ryan Allemann will reduce hay acres again this year as favorable land-rental terms become increasingly hard to come by.

Last year, the Wayne, NE, grower devoted 240 acres to alfalfa production. This year, he'll trim that back to just 80 acres. Six years ago, he was harvesting hay on 900 acres.

"The landlords in our area don't want to get into long-term leases anymore," says Allemann, who markets most of his hay in 3 x 4 x 8' bales to Ohio dairies.

"Most of them only want to do a two-year lease. With the dynamics in agriculture changing so fast right now, they're afraid going any longer will put them behind on what they could be getting in cash rents."

For alfalfa, Allemann says, a short lease period simply doesn't make sense. "I figure a stand of alfalfa has to last four to five years to make it pencil out economically. You have all that investment in the seeding year. Then if you lose the ground after the second year, you're basically out of luck."

Rental rates are rising, as well. Currently, dryland ground in his area is renting for close to \$300/acre. Average rent for irrigated ground is \$500-600/acre. "Some is going for as high as \$800/acre. And it just keeps going up every year."

He doesn't expect the situation to improve any time soon. "About the only thing that would change it would be if corn prices were to go down sharply. Cash rents would stabilize, and landlords might be willing to write a little longer-term lease." (SOURCE: Adapted from Hay & Forage Grower, eHay Weekly, May 21, 2013)

UPCOMING EVENTS

JUN 18 Advanced Grazing School, UKREC, Princeton
OCT 10 Kentucky Grazing Conference, Fayette County Extension Office, Lexington

2014

JAN 12-14 AFGC Conference, Memphis, TN
JAN 13 AFGC Dow Pasture Symposium, Memphis, TN
JAN 17 Forages at KCA, Lexington, KY

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